

## Wake County Natural Areas Inventory

### MIDDLE CREEK AQUATIC HABITAT

**Site Number:** 37

**Size:** about 22 air miles long (11 miles in Wake County)

**Site Significance:** State (Wake: Regional)

**Quadrangles:** Wake County – Lake Wheeler, Angier

**Ownership:** North Carolina public waters

**SIGNIFICANT FEATURES:** A large number of freshwater mussels are present in Middle Creek, though the rarer species are found in the Johnston County portion of the site. Rare species found in Wake County are the State Threatened triangle floater (*Alasmidonta undulata*), squawfoot (*Strophitus undulatus*), Roanoke slabshell (*Elliptio roanokensis*), and eastern lampmussel (*Lampsilis radiata radiata*); and the State Special Concern notched rainbow (*Villosa constricta*). Rare mussel species found so far only in the Johnston County portion are the Federally Endangered dwarf wedgemussel (*Alasmidonta heterodon*), the State Endangered Atlantic pigtoe (*Fusconaia masoni*), and the State Endangered yellow lance (*Elliptio lanceolata*). Rare vertebrate species found in Wake County are the State Special concern least brook lamprey (*Lampetra aepyptera*) and Significantly Rare pinewoods shiner (*Lythrurus matutinus*). Rare vertebrates known just from the Johnston County portion are the Neuse River waterdog (*Necturus lewisi*) and the Carolina madtom (*Noturus furiosus*), both endemic to North Carolina and state-listed as Special Concern. Also, the State Special Concern North Carolina spiny crayfish (*Orconectes carolinensis*) is present in the creek in Wake County.

**LANDSCAPE RELATIONSHIPS:** This site parallels the Swift Creek Aquatic Habitat, which lies 5 miles to the north. Immediately upstream, across Johnson Pond Road (SR 1404), is Middle Creek Bluffs and Floodplain.

**SITE DESCRIPTION:** Middle Creek originates near Apex in Wake County. It is entirely contained within the Piedmont Province, and over most of its course flows over a gently rolling terrain underlain by metamorphic rocks of the Raleigh Belt. It flows southeastward into Johnston County, joining with Swift Creek immediately above the Neuse River, near Smithfield. This aquatic habitat extends upward to Johnson Pond Road (SR 1404) and downstream to its confluence with Swift Creek.

Middle Creek has one of largest set of rare aquatic species of any comparable stream in the eastern Piedmont. Eight rare mussels are known from the creek, with the last three known only from the Johnston County portion: triangle floater (*Alasmidonta undulata*), squawfoot (*Strophitus undulatus*), Roanoke slabshell (*Elliptio roanokensis*), eastern lampmussel (*Lampsilis radiata radiata*), notched rainbow (*Villosa constricta*), dwarf wedgemussel (*Alasmidonta heterodon*), Atlantic pigtoe (*Fusconaia masoni*), and yellow lance (*Elliptio lanceolata*). Rare fish species found in the creek are the least brook lamprey (*Lampetra aepyptera*), pinewoods shiner (*Lythrurus matutinus*), and Carolina madtom (*Noturus furiosus*); the last species has not